REMARKS

Claims 1-12, 19 – 25 and 51 – 55 are presently before the examiner.

Examiner's reply to Arguments from previous Response

The examiner misquoted Applicant's statement in commenting that "it does not matter if Pratt or Huber so much as suggest that transforming the cells to express DANCE" if Nakamura supplied motivation to combine. Applicant's statement was that "Neither Pratt nor Huber, however, so much as suggest that transforming endothelial cells to express or over-express **a factor such as** DANCE **would have any beneficial effect on the adherence** of the ECs." Applicant's actual statement goes to the heart of the § 103 rejection; namely, there is no motivation to combine the references **to have an effect on adhesion**. In any event, the point is moot in that the examiner has issued a new ground for rejection.

35 USC §102 rejection of claims 1 – 10, 12 and 52 – 55

The examiner has rejected claims 1 – 10, 12 and 52 – 55 under § 102 as being anticipated by Pratt, et al., U.S. Pat. No. 5,785,965. The examiner states that Pratt discloses a prosthetic vascular ePTFE graft seeded with genetically transformed endothelial cells from a vein of the host or other sources. Applicant traverses.

Applicant's response

Pratt does indeed disclose a vascular prothesis seeded with genetically transformed endothelial cells (ECs). However, Pratt's ECs are genetically modified to express one and only one factor – VEGF. Claim 1 of the present application requires, "endothelial cells that have been genetically transformed to express or over-express at least one cell proliferation growth factor **and** at least one cellular adherence factor." (Emphasis added). Pratt does indicate that additional genes may be co-transfected with the vascular growth factor but it is clear from the patent that he was not considering adhesion factors:

> The second gene may encode a protein that inhibits the growth of intimal cells, for example, inducible nitric oxide synthase (iNOS) or endothelial cell nitric oxide synthase (ecNOS). Proteins that inhibit thrombosis, e.g., tissue plasmogen activator (tPA), urokinase, and streptokinase, are also of interest for co-transfection. Page 4 lines 60 – 66.

Thus, Pratt does not anticipate the present invention. The examiner is requested to withdraw the rejection.

35 USC 103(a) rejection of claims 11, 19 – 25 and 51

The examiner has rejected claims 11, 19 – 25 and 51 as being unpatentable over Pratt, et al, in view of Nakamura, et al. The examiner states that Pratt, et al. discloses a prosthetic vascular e-PTFE graft seeded with genetically transformed ECs but fails to disclose a method of genetically transforming the ECs to express DANCE. The examine next states that Nakamura teaches genetically transforming ECs to express DANCE. The examiner then opines that it would have been obvious to one of ordinary skill in the art to combine the teachings of genetically transforming ECs to express DANCE, as taught by Nakamura, et al., to a prosthetic vascular ePTFE graft seeded with genetically transformed ECs as per Pratt, et al. in order to promote adhesion of ECs. Applicant traverses.

Applicant's response

Pratt provides no suggestion or motivation to combine with Nakamura. That is, Pratt presents the results of implantation of a vascular graft in rabbits. The rabbits were killed at 8 hours, 14 days and 28 days after graft implantation. Pratt then observed that, "There was no unusual adhesion, hematoma or seroma adhesion around the grafts," (Col. 12, lines 53 – 54) and, more importantly, "**The grafts from all three groups were patent**" (Col. 12, lines 55 – 56), indicating the Pratt observed no problems with adhesion. Later on, Pratt states that, "Previous attempts have seeded ECs onto synthetic grafts, but this results in incomplete endothelialization as well as cell denudation upon exposure to flow" (Col. 14, lines 5 – 7) but that, "It is shown above that VEGF gene over-expression selectively promotes endothelialization of the prosthetic vascular graft surface and graft healing." (Col 14, lines 18 – 20). Pratt was clearly indicating that the observed denudation problem was solved by his invention, VEGF-gene over-expression. There is absolutely no hint of any problem with adhesion of ECs to artificial grafts in Pratt and therefore, absolutely no motivation to combine Pratt with Nakamura.

Furthermore, Nakamura, et al. is an initial identification and characterization of DANCE. Nakamura does not teach "genetically transforming the endothelial cells to express DANCE." Nakamura investigated wild-type cells to determine the presence, and if present, the purpose, of DANCE in various types of cells. He did not transform any cells to express (if not already expressed by a particular cell type) or to over-express (if already expressed by a particular cell type) DANCE. Furthermore, only the characteristics of DANCE are described. There is no suggestion or motivation to combine the newly discovered DANCE with any other reference to achieve any objective of any sort.

The examiner is requested to withdraw the rejection.

CONCLUSION

Based on the above remarks, applicant believes that the application is in condition for allowance and respectfully requests that it be passed to issue.

Applicant requests an extension of three months under 37 CFR §136 to respond to this office action. The Commissioner is authorized to charge the amount due to Bingham McCutchen Deposit Account No. 50-2518, billing reference no. 24783-7004. Please address all correspondence regarding this communication to:

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Date: September 22, 2003

Respectfully submitted,

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By: _____

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